

Claims

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1. A method for establishing a Systems Network Architecture (SNA) connection between a source SNA node and a target SNA node through a packet switching network using Data Link Switching (DLSw) access services, said packet switching network comprising a plurality of DLSw access nodes, said DLSw access nodes comprising one or a plurality of Data Link Switching (DLSw) access services including directory services for locating resources across the packet switching network using a spanning tree, connection services for establishing connections between DLSw access nodes, and protocol services for understanding and/or interpreting Systems Network Architecture (SNA) protocol, said method comprising the steps of:

at a source DLSw access node, receiving from a source SNA node a first SNA request message for requesting the establishment of a SNA connection with a target SNA node;

at said source DLSw access node, locating a target DLSw access node providing access to the target SNA node sending an undirected query over the spanning tree;

at target DLSw access node providing access to the target SNA node, in response to the undirected query, sending to the source DLSw access node a reply message comprising addressing information of the target DLSw access node providing access to the target SNA node;

establishing a reserved or non reserved connection within the packet switching network between the source DLSw access node and the target DLSw access node;

at the target DLSw access node, sending to the target SNA node a second SNA request message for requesting the establishment of a SNA connection;

28 establishing a SNA connection between the source SNA node and the target SNA node.

1 2. The method according to claim 1 wherein the step of establishing a SNA connection
2 between the source SNA node and the target SNA node, further comprises the steps of:

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4 at the target DLSw access node, receiving from the target SNA node and forwarding to the
5 source DLSw access node a response to the second SNA request message indicating that the
6 SNA connection between the source SNA node and the target SNA node is established.

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8 at the source DLSw access node, receiving from the target DLSw access node the response
9 to the second SNA request message and sending to the source SNA node a response to the
10 first SNA request message indicating that the SNA connection between the source SNA node
and the target SNA node is established.

3. The method according to claim 2 comprising the further step of:

in the source DLSw access node, storing the addressing information of the target DLSw
access node providing access to the target SNA node.

4. The method according to claim 3 wherein the step, at said source DLSw access node, of
locating a target DLSw access node providing access to the target SNA node comprises the
further steps of:

determining whether the addressing information of the target DLSw access node providing
access to the target SNA node has been previously stored;

retrieving the addressing information of the target DLSw access node providing access to
the target SNA node when said addressing information has been previously stored.

11 sending by means of said retrieved addressing information a point to point directed query to
12 the target DLSw access node providing access to the target SNA node.

1 5. The method according to claim 4 wherein said addressing information of the target DLSw
2 access node providing access to the target SNA node comprises addressing information of
3 the target DLSw access services within said target DLSw access node.

1 6. The method according to claim 5 wherein said undirected query comprises addressing
2 information, in particular Medium Access Control/Service Access Point (MAC/SAP)
3 address, of the target SNA node.

1 7. The method according to claim 6 wherein the packet switching network is a Networking
2 Broadband Services (NBBS) network.

1 8. A computer program product being operated on a processor in network access nodes of
2 a high speed network, said access nodes providing Data link Switching (DLSw) access
3 services in said high speed network, said computer program product comprising a usable
4 medium for storing :

5 at a source DLSw access node, a program code module for:

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8 receiving from a source SNA node a first SNA request message for requesting the
9 establishment of a SNA connection with a target SNA node;

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11 upon reception of a first SNA request message, locating a target DLSw access node
12 providing access to the target SNA node; and ,

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14 using the access services for sending an undirected query over the spanning tree;
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16 at target DLSw access node providing access to the target SNA node, a program code
17 module for:

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19 in response to the undirected query, sending to the source DLSw access node a reply
20 message comprising addressing information of the target DLSw access node
21 providing access to the target SNA node;

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23 using the access services and the addressing information for establishing a reserved
24 or non reserved connection within the packet switching network between the source
25 DLSw access node and the target DLSw access node; and,

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27 using the access services for sending to the target SNA node a second SNA request
28 message for requesting the establishment of a SNA connection and for establishing
a SNA connection between the source SNA node and the target SNA node.